44th YEAR OF PUBLICATION

SCHOOL AND SOCIETY

Organizing Our College Resources for Mass Education

By FRANK C. CHILD

Page 332

SEPTEMBER 27, 1958 • Vol. 86 • No. 2137

Productivity in Educating the Able

JOHN F. GUMMERE—*Page 334*

Were the Starkweather Murders Necessary?

RICHARD A. SIGGELKOW—*Page 335*

Communication Skills: Promise or Threat?

SYLVIA ANGUS—*Page 337*

RESEARCH

Teaching Efficiency and Class Size

JOSEPH R. CAMMAROSANO and FRANK A. SANTOPOLO—*Page 338*

EVENTS

Homework for Hutchins; Union College Program for Gifted Freshmen; New Plan of Teacher Preparation; Education Doubles Earning Power; Higher Education for Women *341*

RECENT PUBLICATIONS: *343*

Educational Ticker Tape

Edited by Stanley Lehrer

Index of World Translations: Earlier this year Unesco released the ninth annual edition of "Index Translationum" ($16.00), which records the publication in 1956 of 27,617 translations of books in 52 countries. The reference work lists translations in 195 languages, ranging from Abkhaz, the language of a Soviet republic on the Black Sea, to Zulu. The most widely translated author is Lenin (331 translations of various works, 257 of which were published in the U.S.S.R.), followed by Jules Verne (143 translations), Tolstoy (134), Maxim Gorki (107), and Mickey Spillane (104 translations, 89 of which were published in Turkey). The highest number of translations per country is 4,648 published in the U.S.S.R., partly accounted for by the many different languages of that country. Germany published 2,152 translations, followed by Italy (1,428), France (1,399), Czechoslovakia (1,386), Turkey (1,365), Japan (1,336), and Israel (1,162) . . . **The American Library Association** will assist the University of Rangoon, Burma, in establishing a modern library as part of the university's newly developed School of Social Sciences. Paul H. Bixler, librarian, Antioch College, is head of the program in Burma which is subsidized by a $180,000 Ford Foundation grant.

More and better vocational education is a modern necessity, said Prof. H. M. Hamlin, specialist in agricultural education, University of Illinois, during an interview in July. Business and industry supply training for about 20% of the population, leaving about 80% for the schools. Prof. Hamlin believes that too much of this vocational education has been attempted in the secondary schools. "We need institutions for education beyond the high school which would provide adequate pre-service vocational education for youth and in-service vocational education for adults of all ages." Such institutions, far different from the traditional four-year colleges and universities, he stated, would remove from the high school the burden of providing more vocational education than it can appropriately offer . . . **Strengthening Science Education:** An In-Service Institute in Geophysics has been established at the Johns Hopkins University under a co-operative agreement with the National Science Foundation to strengthen science education at the high-school and university levels. Courses at the institute are available tuition-free to 60 high-school science teachers from Baltimore and surrounding counties during the 1958-59 academic year.

Bookmobile for Eastern Nigeria: A large van recently started off from Enugu, capital of Eastern Nigeria, on its first journey to carry books to villages and towns in the region. The vehicle, constructed in the United Kingdom, is a gift from Unesco to Eastern Nigeria, and the lending service is being operated by the Eastern Region Library Board in conjunction with the Unesco Pilot Public Library Project in Nigeria. A ceremony attended by Nigerian Prime Minister N. Azikiwe and other government officials was held in Enugu to inaugurate the service, first of its kind in West Africa. After being "launched" with a bottle of champagne, the library on wheels received its first client, Mrs. Flora Azikiwe, wife of the Prime Minister, who borrowed two books—on women's rights and home cookery . . . **The University of Tehran, Iran,** and the University of Pittsburgh concluded an agreement last month providing for an extensive co-operative exchange program between the two institutions. "We've adopted each other, so to speak," said Chancellor Edward H. Litchfield of Pittsburgh. The schools will exchange faculty and students, and there will be a mutual interchange of knowledge gained through research.

Advanced Math in High School: A special new course, "Elementary Mathematics—A Higher Point of View," based on the premise that the theory of relativity and other advanced mathematical subjects can be taught at the high-school level, will be offered for 30 selected high-school teachers of mathematics and science this fall by New York University's Institute of Mathematical Sciences. "Such advanced systems of algebra as matrix algebra and unusual systems of non-Euclidean geometry are not more difficult and are considerably more interesting than much of the ordinary high school mathematics and science curriculum," said Jacob T. Schwartz, associate professor of mathematics, who will conduct the course. "The purpose of the new course is to do more than add interest to the high school curriculum. We hope to enable high school teachers to give more exciting material in advanced mathematics to those students who are interested in science—to stimulate these students to do further study and to get more out of their high school science courses." . . . **The Creole Foundation** has granted $240,000 to the Institute of International Education to finance a three-year program devoted to improving Venezuela's elementary rural school system.

Increasing Interest in Russian: Two courses in the Russian language are among the new offerings added to Lehigh University's curricula for 1958-59. At Northwestern University, a department of Russian language and literature is being established in the College of Liberal Arts. Smith College reveals an increase in registration for elementary Russian from eight students last year to 49 in 1958-59. Boston University's Evening Division is offering a short-term certificate program in Russian Studies for adults in the community. "Students in our colleges and universities manage to get first-hand knowledge from specialists in the field," explained Leon I. Twarog, associate professor of Slavic languages, "whereas adults, simply because Russian studies weren't important earlier,

(Continued on page 343)

SCHOOL AND SOCIETY

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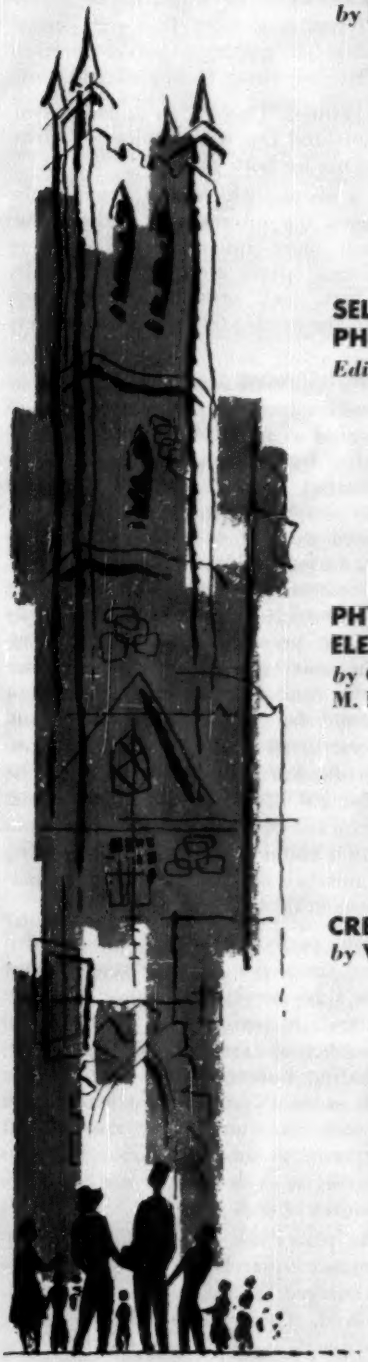

AN INTRODUCTION TO EDUCATIONAL RESEARCH

by **ROBERT M. W. TRAVERS,** ***University of Utah***

This book has two main purposes: first—to use in the training of educational research workers, and second—to provide an interpretation of the aims and methods of educational research for teachers, administrators and students. The author emphasizes theory as the basis of scientific research. *A pre-publication comment*: "It contains so many worthwhile and stimulating notions and suggestions of late birth that it seems to antiquate most rival books in the field."

To be published November 1958

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1957 *541 pages* *$5.90*

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Organizing Our College Resources for Mass Education

By FRANK C. CHILD
Michigan State University, East Lansing

OUR SOCIETY is committed to the principle of mass education. A larger and larger percentage of a growing population is clamoring at the gates of American colleges and universities. As a matter of social policy, there shall be virtually no bar at the gates.

Our relatively wealthy economy can probably afford a program of mass education. Indeed, during the last 10 to 15 years we have provided additional physical facilities at least in proportion to the growing student population; but not so the faculty. Without implying that the historical ratio of students to faculty was necessarily optimal, it is clear that the increasing student-faculty ratio indicates a need for different methods of instruction. A new combination of teaching resources which substitutes facilities for faculty will not only save resources, but will improve the educational product.

What kind of educated man can be and should be mass-produced? Certainly not the sort that educators set up as their ideal. While we must reserve a special place in our educational system for the gifted student whose mind can be *liberated* and *disciplined*, we also must accept the fact that for most students such education is neither feasible nor appropriate. At best we can hope to produce "educated men" who, to varying degrees, possess some knowledge of the universe as it seems to be, a more or less well-defined set of personal values and an awareness of society's values, and certain technical and vocational skills.

Unfortunately, all too often the American student identifies "education" in a much more simple-minded way; to wit, an education is an appropriately engraved sheepskin representing a four-year term, with good behavior, in an educational institution. It is a sort of economic good—an objective something to be acquired at least possible cost in terms of intellectual activity. The faculty, however, stands as a barrier, demanding high-level, if not maximum, performance before relinquishing the desired diploma. The educational process takes the form of bargaining over the terms under which a diploma is granted. There is an apparent conflict of interests and the whole thing is a frustrating experience for both parties.

We need a system which will remove the conflict between the interests of students and faculty, permit more intensive utilization of physical facilities, allow economies of faculty time and effort, and provide an education appropriate to the needs and talents of a variety of students.

I propose the following:

1. We should eliminate the myth that an education consists of an accumulation of 120 + semester credits by simply abolishing the requirement. Instead, let us grant a degree when a student has demonstrated his competence by passing a stated number of comprehensive examinations in various fields of academic inquiry. These examinations shall be constructed by an independent board of examiners, preferably to include some personnel not regularly employed on the university staff. These examinations would be similar to course finals, except that they would be more comprehensive and would be constructed independently of organized course work. Furthermore, there would be a serious reduction in the number of examinations to be required of all students. A minimum of specialization could be assured by specifying a minimum number of examinations in a particular department or departments.

Examination periods would be scheduled three or four times per year. A student may apply, two or three weeks in advance of a particular examination period, for permission to attempt a number of examinations. The grades earned, including failure, would be duly entered on the student's record. To maintain a connection with the university, the student would be expected to show satisfactory progress toward a degree, as evidenced by his passing a minimum number of tests per year.

The system places the responsibility for student performance squarely on the student. He may be encouraged, stimulated, and cajoled—but never forced. Also, when coupled with the following proposal, it eliminates the basic an-

tagonism between student and teacher. They become allies in preparation for examinations.

2. It shall be the function of the various university departments to determine the fields in which they will offer tests and to specify requirements for a major. In addition, department members shall participate in the construction of examinations. Again, offerings of fields for examination might be roughly comparable to present course offerings, but I anticipate a serious reduction in the number of areas covered by such examinations.

In addition, the departments will publish a reading list of materials useful in preparation for examinations, schedule a series of formal lectures by a variety of persons on a variety of topics within the various fields and open to students at their option, and arrange for graduate assistants and instructors to be available during office hours to help students over particularly thorny problems or to guide them to readings on particular topics.

The combination of independent study and attendance at lectures, followed by successful passing of examinations, leads to a degree.[1]

3. The various departments also should offer a number of seminars on various topics within their disciplines. The seminars could be varied in subject matter from year to year but they should be true seminars, involving writing of papers, group discussion and debate, subject only to the leadership of the faculty member in charge. Students of demonstrated ability, as evidenced by passing at a high level a given number of field examinations, would be permitted to substitute a number of these seminars for further field examinations. Successful performance in a minimum number of seminars would be the basis for granting a degree with "distinction." Participation in the program depends upon the student; within the limits set by his talents, it is his choice.

4. For the exceptional student, as measured by high examination grades and high-quality performance in seminars, we should offer opportunities for special study on a tutorial basis. The select student could thus establish a close relationship to a faculty member—a relationship which is prerequisite for production of the "ideal" type of educated person. Upon completion of a specified amount of tutorial study, a student would be granted a degree with "great distinction."

The professor would have six functions: to serve from time to time on the boards which construct or revise field examinations; to assist from time to time in preparation of bibliographical material appropriate for various fields; to offer a number of formal lectures per year; to offer two or three seminars per year; to supervise the study of an occasional "tutee"; and to devote the remainder of his time to scholarly activity.

I do not envision technological unemployment or a free ride for faculty or students. I do anticipate a pleasant academic environment which will permit a maximum of scholarly activity by both students and faculty. Contact between the two groups would be directly correlated with student academic interest and performance rather than inversely correlated as it is now. Students should find this system equally appealing. Education, at any level above the minimum, is available on their terms, limited only by their talents and enterprise.

My suggestions predicate a new sort of academic environment and an alteration of administrative procedures. They anticipate, to say the least, radical departures from present educational practices. Such changes spawn resistance from and confusion among bureaucrats—even academic bureaucrats. Surely, however, reasonably skilled administrators can develop new procedures and will suffer only temporary inconvenience. More serious is the problem that some students will not survive the transition from a teacher-centered educational process to one which is student-centered. But presently available insights into the learning process, some imagination, and some good hard work will minimize such losses. The only real obstacle is the inertia inherent in the existing system.

These proposals are a practical necessity. The present system of education has now outlived its usefulness; its demise is only a matter of time. Adherence to the present organization and technique means intolerable burdens on faculty resources and an unspeakably low quality of student performance. It will convert our colleges and universities into gigantic mills of mediocrity where students are domesticated rather than educated. Change is inevitable. I propose we give the present system a decent burial and then proceed to establish a new regime in which students can utilize their initiative, follow their natural curiosity, and in which the process of education becomes not stultifying, but exhilarating.

[1] There are certain disciplines which, by their very nature, require student performance in laboratories, workshops, etc. If the above sort of program were to be adopted generally, special *performance* courses could be established in addition to or in lieu of field examinations—and could carry certain prerequisites.

Productivity in Educating the Able[1]

By JOHN F. GUMMERE
William Penn Charter School, Philadelphia

THESE are interesting days in education. Mid-20th-century mathematics, descriptive English grammar, educational TV, and a dozen other developments are forcing the kind of thoughtful consideration of programs which cannot fail to produce progress, the same kind of practical progress which Latin teachers began 25 years ago.

The public has awakened to the problems. They have come to understand about the "felt-need" fraud, according to which the teacher was not supposed to teach anything the student did not think he needed. This is like a baseball coach asking his second baseman whether he felt the need to practice fielding. If he did not feel the need, he could make mud pies in the dirt at homeplate or, better still, make sure that the foul-line flags were hanging straight. The child comes to school to get educated; the baseball player goes to practice to learn baseball. The teacher and the coach are experts and any sensible young person naturally looks to them for guidance and leadership. Teaching and coaching on any other basis are ridiculous. The good teacher and good coach will make their charges feel the need for what they are doing. Children of all ages respect the teacher or the coach who demands hard work; there is a glamor about difficulty and a satisfaction in coping with it.

What the public now insists upon is that able children have a chance at an academic education. Even foreign languages are receiving the proper attention. In a previous report I urged that special financial help be given to training in other languages. In Jan., 1958, the American Council on Education announced its support of a plan outlined by the Department of Health, Education, and Welfare to help finance the establishment and operation of training centers where teachers, government employees, and others can receive special instruction in languages.

Able pupils and their parents are today of a mind to dispense with a course in "Clicking with the Crowd" and trade it for some real mathematics (not general mathematics, which they should have studied in the sixth grade). They will give up instruction in "My Duties as a Baby-Sitter" for three good years of Latin. "Developing School Spirit" as a major course no longer can hope to equal in prestige a year of physics. Young people enjoy some freedom, but they are too young to enjoy or to benefit by too much freedom; and this applies to the choice of courses just as it does to athletic coaching. They expect the specialists to guide them in what they do and to give them a chance to make the most of their abilities.

The public feels the same way about opportunities for the able and is now heard insisting upon precisely the kind of curriculum which the independent school always has insisted upon. The hodgepodge of junk, supposed to meet "felt needs," is no longer to be served up to those who want to learn something.

Let us look for a moment at a result of the felt-need fetish by drawing a parallel with business procedure. Suppose it was your business to turn out metal stampings, and you had invested a good deal of money in a machine to do the stamping. You buy metal blanks from the biggest producer in the field. But when you run them through, you find that 60-66% of them are no good. You would be in a hurry to find out what was wrong, and, if you continued to waste so much of your product, you soon would go out of business. If you kept turning out this highly defective product for any length of time, surely the kindest thing that could be said of you would be that you were crazy.

Yet one university publicly admits that of all freshmen who start freshman mathematics, 60% flunk out or quit. The figure for physics is 66%. This has been going on for years. Those educational blanks (an uncomfortably apt word) are being fed from the producer into the university machine and nearly two-thirds of the product is no good. Who, we venture to ask, is crazy? Can this happen in a country which prides itself on efficiency and know-how?

An experienced elementary school principal, in a letter to a newspaper, offered the remedy: "We should as quickly as possible change our compulsory education laws and not force our youth to go to school when they have no further interest in education." And, I add, "when they

[1] From a report made to the annual conference of the Secondary Education Board, March 8, 1958.

are incapable of receiving further education." Something must be done, and many schools are making heroic efforts to do it, for those who are ineducable, even by the lowest of academic standards; but let us not call this high-school work. Let us call it "off-street parking" or something else which actually describes it.

For the key to our problems is productivity. Just as business must steadily increase in productivity, getting the most from its materials, its methods, and the labor expended, so precisely must education. We no longer can afford to run a system whereby the blanks, the machine, and the process are so outrageously defective as to result in a 60% loss of our product.

Lack of productivity shows itself in the business world in many places, perhaps in none better than the toy-manufacturing industry. Toys, the equal of anything we produce, can be made in Japan, shipped here, and sold after paying import duties at half the cost of local manufacture. Just wait 10 years until China, Japan, and Asia in general are further industrialized and see what happens to American manufacturing if our productivity does not improve.

Lack of productivity in the educational world is obvious. Wait 10 years more until China, Japan, and Asia in general, not to mention Russia, further improve their educational productivity and see what happens to the United States if our own educational productivity does not improve.

It is clearly the duty of the independent school, which is, and always has been, a staunch stronghold of an academic, humanistic education, to continue to stand for a broad, cultural program. Good brains are developed, like good muscle, by rigorous training with hard taskmasters. The future must have everything that our talents can provide in the intellectual world. We are blessed with unusual talent, unusual opportunities. Let us be about our work. Certainly the united efforts which made possible the annual conference of the Secondary Education Board, March, 1958, and the good fellowship and the mutual assistance which characterize it, will help us.

It always has been clear that the education of young people is the most fascinating of professions. There can not be the least doubt that today it is all that and more; it is most vitally important to the world of the future.

Were the Starkweather Murders Necessary?

By **RICHARD A. SIGGELKOW**
University of Buffalo (N. Y.)

SOME TIME AGO, 19-year-old Charles Starkweather admitted murdering 11 persons. He did not even know most of the human beings he killed. A University of Nebraska criminologist explained that Starkweather represented "a totally defeated ego which had no satisfactory anchorage in social life. Socially, he was simply an empty man. The only way he could become important was by killing."

How could this horrible crime, which brutally shattered the lives of so many innocent people, happen in America, in our time?

Unheeded danger signals of serious maladjustment in Starkweather's life history were as obvious as a tripped burglar alarm in broad daylight. From early childhood he displayed belligerent, unco-operative attitudes toward authority. Due to inability to refrain from fighting, he was transferred to another school; one playground battle opened a gash in his opponent requiring seven stitches to close. He intensely disliked school. Retarded in reading, his academic record was poor and his work habits were ineffective. He repeated a grade. He was often sullen and unhappy.

Children normally like school. When one does not, someone ought to look honestly and carefully—and quickly—for reasons why.

His intelligence range, between 80-90, only suggests one possible cause for his difficulties. Any form of personality test—not needed in light of the facts—would immediately have identified him as seriously in need of help.

Most important is his history of rejection from first grade on. How well a person gets along with others as an adult depends on how he got along as a child. Charles Starkweather was completely friendless at every stage of growing up.

All his life he needed acceptance and friends —and these he never achieved. Although the need to "belong," to have friends, and to be important is usually considered most typical of teenagers, the tiny baby needs to feel that he is in

friendly surroundings to form a solid foundation for becoming a happy, well-adjusted person.

Most children at all levels tend to be conformists, afraid of what is different. Group influence reaches its first peak with fourth-graders. Studies reveal at this level that many unhappy, insecure, unsuccessful children turn toward juvenile delinquency. A pupil may be "left out" because he is too slow or too bright, physically handicapped, or merely because he looks, talks, or dresses differently.

And Charles Starkweather was different. Fellow pupils awarded him undesirable nicknames because of his small, rather grotesque figure. Strong glasses may have aided his weak eyesight but did nothing for his appearance. His early speech development was slow; he had a speech impediment. While in the primary grades, he underwent an ear operation because of hearing difficulty.

What influence physical handicaps had on his subsequent general development and school record we, unhappily, will never know. Medical or psychiatric help at the proper time, coupled with assistance by a speech correctionist or understanding teachers, might have changed the tragic direction of this child's life.

Much professional literature concerns adolescence, during which children become adults. Boys and girls carefully imitate companions of their own sex. Being accepted by others of similar ages and both sexes is of foremost importance. Children unable to attract friends of their own age level settle for those younger than themselves. Significantly, this 19-year-old youth's girl, and perhaps his only friend, was a mere child of 14.

Adolescent tensions stem from worry over rejection. Nonconformity reflects itself in appearance, to include leather jackets and duck-tail haircuts. Obviously, all boys with duck-tails are not in trouble with the police. However, a high proportion of those in trouble follow the duck-tail fad as did "zoot-suiters" a decade ago. Youth taking such pains with their hair are clearly rebelling against something, setting themselves apart from human society. Charles Starkweather displayed these external badges of defiance toward a society which segregated him.

Any rejected child tries desperately to achieve acceptance. Unfortunately, his efforts are often so awkward that he usually manages to widen the chasm between himself and others unless he receives real help from someone who knows how to bridge the gap. Repeated failure to recognize certain symptoms as a child's way of asking for help only forces redoubled aggressiveness. He continues along the same path with even greater determination in his desperate search for aid.

We must be aware of the heartaches suffered by those who are not accepted, remaining ever alert to give outsiders the help they need somehow to enter the charmed circle. This victim was never permitted to escape from the role of a social outcast. Good schools provide learning experiences in which all children achieve a degree of success, so that potential Charles Starkweathers really do feel that they belong with their class.

Recent events have caused concern over the role of our schools in the space age. We are correctly moving toward higher standards and increased subject-matter emphasis. At the same time we cannot ignore social and emotional problems of children.

We must find boys and girls who are seriously unhappy and treat the causes for this condition. We should search for pupils whose attendance records indicate difficulties worthy of further study. Those whose problems arise out of personal handicaps, physical defects, language difficulties, or appearances can be helped. Sincere personal interest must be shown children consistently in trouble, as well as those who never succeed in their work.

Pupils leaving school before graduation are often among the rejected. Greater effort must be exerted to find out the real reasons why children leave school. Did anyone consider that, when he quit, the *only* job Charles Starkweather was prepared to do for the rest of his life was the work of a garbage truck assistant?

Our schools must accept a large share of responsibility for prevention of delinquency. Severe behavior problems today should have been identified and treated by specialists when in the beginning stages several years ago. Certainly there are many happy, well-adjusted children who resemble Charles Starkweather in background, mental ability, and even in appearance who are not driven to achieve recognition through extreme antisocial acts. Classroom teachers need sufficient training at least to identify those children needing special help. But teachers alone cannot be expected to deal with such problems beyond this point and still be held to their primary task of imparting subject matter.

Any school that succeeds in making a child feel he really belongs as a respected member of his group reduces the number who grow up to be criminal or irresponsible. The value shows up even more in all the others—who would not be criminals anyhow—who take their places in

the community as more competent workers, better citizens, and happier individuals.

Admittedly, our schools are not presently equipped even to begin this assignment effectively. It is expensive to provide the required guidance, psychological, and psychiatric services, although this procedure is much cheaper than expensive court trials and expanding already inadequate prison facilities.

One question remains: Can any community afford *not* to provide adequate guidance services for its children?

Communication Skills: Promise or Threat?

By SYLVIA ANGUS
State University of New York
Agricultural and Technical Institute, Canton

In a chapter on education in "The Organization Man," William H. Whyte discusses a shift in college curriculum from English to Communication Skills. "As a way of looking at society," says Whyte, "communication can be a very absorbing subject—but one of the reasons it can be very absorbing is because nobody is quite sure yet just what communication amounts to, or, for that matter, whether it is really a separate discipline at all. Until a good bit more is known, it has no business whatsoever as a basic undergraduate discipline."

In this uncompromising statement, it seems to me, Whyte has pointed out a major criticism of this relatively new and rapidly expanding field. Communication skills, as originally developed at Columbia University's Teachers College, is clearly an inter-disciplinary subject. It endeavors to train students in the arts of communication, reading, writing, speaking, and listening. In addition, it studies the communication problems of the modern world by stressing such topics as audience analysis techniques, methods of the mass media, and social dynamics.

Much criticism has been leveled at Communication Skills on the grounds that it *is* inter-disciplinary. Crossing the often hazy boundaries between subjects is not, however, the real evil. Teachers know that there are dangers in specialization—most significantly, the danger of narrowing the view so much that larger patterns of knowledge get lost. The crossing of disciplines can be very valuable if students are well grounded initially in the fundamental subjects being crossed. It is on this point that Communication Skills so often founders.

Mr. Whyte's criticism is not of the field as such, but of its use as a substitute for the basic discipline of English. In this, as a teacher of both English and Communication Skills, I must concur. The most serious failure of Communication Skills is in its application. Unfortunately, as presently organized, most Communication Skills courses are taught in high schools, junior colleges, and technical institutes. They constitute frequently the only exposure students have to literature and writing. They *are*, in short, often used as substitutes for what used to be English.

It is not the teacher's fault that his students so often emerge from the lower schools with inadequate reading and writing skills. His mistake is in trying to fire broadside at them a sort of buckshot of knowledge. Students in two-year colleges rarely get more than a year of English. If the course they take is not English, but Communication Skills, they will be exposed in that year to a little reading, a little writing, a little speaking, a little listening to records, a little work on mass media, a little business letter writing, a little audience analysis, and a little study of group dynamics. At the year's end, the students have some amusing anecdotes and a veneer of new ideas, but scant ability actually to communicate on any level.

The students themselves often recognize that they somehow are being shortchanged. One would expect the average student to enjoy discussions on such fascinating topics as advertising techniques—illustrated with clippings. Certainly one would expect them to prefer panel speeches on TV censorship to hard labor on the rock piles of English grammar. Oddly enough, I have not found this to be true. My students have expressed more satisfaction over licking a grammar problem than they have over analyzing a TV program. They have the satisfaction of working in a basic area whose relevance to their education they can clearly see. They may not like the task of learning to read intelligently, but they respect it and they believe in its value.

This student attitude indicates the most serious error in the teaching of Communication Skills—an error in timing and objective. The composite course I have described might be interesting and valid as an upper-class course in a

four-year college or as a graduate course for students in English or Social Studies. There is nothing wrong with showing students how the communication structure of modern life operates. Such a course, however, is precisely the wrong one to use on ill-prepared undergraduates or on technical students. These students need the basic skills of reading and writing, whether they like them or not. They are not getting enough reading and writing in the Communication Skills course to make them literate, and without basic literacy they are not ready for an inoculation of ideas on mass culture. They go on with their technical work filled with ill-absorbed generalizations about "American Culture," but without the skill to read further and enhance their understanding.

In placing before ill-equipped students this meal of fascinating ideas which they are incapable of digesting, the teacher of Communication Skills is shirking his real job, which is to give these students the skills they need for the advanced effort of digestion. We are all familiar with the outcry that our presumably educated young cannot read or write properly. Businessmen complain of hopelessly illiterate secretaries; plant managers deplore the incapacity of young engineers to make clear reports. We are familiar also with the defense of the educators based on heavy teacher loads and low salaries. Both sides have strong arguing positions. If, however, the educator acknowledges that he cannot for various reasons really educate his students, is he not throwing in the sponge completely when he bypasses the hard, basic skills and devotes his time to passing on a smattering of ideas?

"Progressive education" is no longer a rallying cry today, but it has left important residues in our educational thinking, one of which is the idea that we teach people and that education should be made interesting. No one would assert that dullness is an educational virtue, but a certain amount of it may be a necessary by-product of the learning process. It cannot all be movies and other visual aids. Probably this is nowhere truer than in the study of English. A good teacher can enliven even grammar, but, regardless of whether he can, he must not skip over it to teach material less vital but more entertaining.

It seems not unlikely that the rising popularity of Communication Skills courses is based as much on teaching load as on teaching conviction. The teacher with large sections simply does not have time to give students the necessary practice in writing. If the need, however, is for renewed emphasis on reading and writing, as I believe, there is no point in blinding ourselves to it by building up the significance of Communication Skills courses. Instead, we need to admit that fusion courses are only legitimate after basic skills are achieved, and we must work out techniques by which these skills can be more adequately taught. Obviously the teacher's load should be lightened. Equally obvious, this is not likely to happen very soon. The realistic approach must be to work out methods by which, with present loads, teachers can give their students more training in reading and writing. No such system can be developed, however, if English teachers allow themselves to be deflected from their primary job by excursions into a new interdisciplinary field. Let us not make the mistake of substituting Communication Skills for English merely because it is teachable. Many subjects are teachable, interesting, and possibly even important, but reading and writing are still fundamental to the entire educational process. When we have graduated students who can read and understand, who can write and be understood, there will be time enough to tackle the complicated problems of mass culture.

RESEARCH

Teaching Efficiency and Class Size

By JOSEPH R. CAMMAROSANO and FRANK A. SANTOPOLO[1]
Fordham University, New York City

THE EXPECTED "bulge" in college enrollment prompted the experiment which is here described. The project was conducted in the social science curriculum at Fordham College, New York City, during the academic year 1956-57. It was directed by a committee of social science faculty members. A grant from the Fund for the Advancement of Education made the study possible.

The objective was to learn whether a well-qualified teacher might not teach just as effectively in class sections considerably larger than

—even double—the traditional 30. For this purpose the following hypothesis was formulated: Given good teaching, a large class (60) with good quality will equal the achievement of a small class (30) with the same quality. By "good quality" was meant a class whose students were in the middle range of ability—those who in the past had achieved academic ratings of high "C" or low "B."

The experiment was conducted with college freshmen in Principles of Economics and with college sophomores in Introduction to American Government and Introductory Sociology. Two special sections were established in each course. Each pair was equalized, an experimental section of 60 against a control section of 30. The primary basis of equalization was past academic performance as indicated for freshmen by general high-school average, and for sophomores by general freshman average. From a frequency distribution of the prospective freshmen's high-school averages ascending from 75, individuals were systematically assigned to the large and small Economics groups in such a way as to equalize the two sections according to this variable. Adjustments then were made for a second factor, the CEEB Scholastic Aptitude scores; individuals with the same general average but different College Board scores were interchanged to equalize the groups according to this variable, too. The same procedure was used for sophomores; but their averages for the freshman year of college were used instead of their high-school averages. The structure of the section thus established is shown in Table 1.

TABLE 1
Structure of Project Groups according to Previous Academic Averages*

	Large		Small		Difference	
Group	Mean	S.D.	Mean	S.D.	Mean	S.D.
Economics	79.23	1.90	79.23	2.04	0.00	0.14
Politics	75.54	3.08	75.73	3.48	0.19	0.40
Sociology	75.26	3.74	75.06	4.08	0.20	0.34

*For Economics, high-school average; for Politics and Sociology, freshman average in college.

Each pair of test sections then was taught the same syllabus by the same professor for the full academic year. Teachers who were recognized for their experience, dynamism, and lively classroom manner were assigned to the groups. The classes were conducted as has been customary in the past—combining lectures with questions and discussions. Graduate assistants were engaged to relieve the professors of routine noninstructional business.

A common objection to larger classes is that, while strictly academic accomplishment may remain high, "intangibles" of the educative process are sacrificed. Distinctively, this experiment tried to identify the intangibles of the social science program and to determine whether and to what extent they were conserved. Three criteria of desirable student performance were therefore singled out: command of the academic subject matter; social awareness—an interest in the public events which affect society's well-being; and principled synthesis of social outlook —control of scientific and philosophical principles in appraising public issues.

To measure command of subject matter, the experimental testing program used routine quizzes, written assignments, and examinations —as summarized by semester averages. The respective teachers and their assistants constructed the tests; while some essay-questions were included, objective or short-answer questions predominated. Under professorial supervision, the assistants graded the tests, systematically cross-checking each other. To measure social awareness, the supervisory committee designed a special test. The student's ability to identify influential public events was assumed to be a valid index of his social consciousness. The test therefore comprised objective questions of varying difficulty, drawn from recent news accounts; it was administered without warning late in the spring semester. To measure principled synthesis of social outlook, the committee again developed special tests, one for each discipline. The objective was to probe the student's comprehension of relevant scientific and philosophical principles and his skill in applying them to facts. The tests followed the general structure of the ETS Law School Admissions Test. They comprised 10 paragraphs, each paragraph posing a hypothetical situation or a theoretical analysis in the appropriate area; the student was required first to judge the situation or analysis in terms of his agreement or disagreement, and then to choose one of four stated principles which might validate his judgment.[2] These tests also were administered without warning in late spring.

The results of the testing program were analyzed in terms of group performance. The following procedure was used. The scores received by the large and small groups in Economics, Politics, and Sociology were summarized by computing the means and standard deviations. The differences in the obtained means and standard deviations were studied by applying the t-test for correlated data. The correlation

coefficient was obtained by correlating the variable being studied (grades in the social sciences) with the major principle of classification (previous academic average).

For command of subject matter, the results are shown in Table 2.

TABLE 2
Significance of Differences between Mean Semester-Averages of Large and Small Project Groups

Group and Semester	Large Mean	Large S.D.	Small Mean	Small S.D.	t-Ratio of Means	Significance 5%, t-table
Eco. 1st Sem.	73.20	6.0	74.25	6.0	0.99	Not significant
2nd Sem.	73.05	6.5	75.95	7.3	1.82	Not significant
Pol. 1st Sem.	71.23	6.3	73.27	6.1	1.53	Not significant
2nd Sem.	76.11	6.2	75.15	7.5	0.63	Not significant
Soc. 1st Sem.	69.50	7.0	71.80	6.7	1.78	Not significant
2nd Sem.	75.11	5.9	74.20	8.0	0.54	Not significant

In Economics, therefore, the small group surpassed the large group in both semesters; in Politics and Sociology, the small groups surpassed the large in the first semester, and the large surpassed the small in the second semester. But in none of the six cases was the difference significant. And in no case were the standard deviations significantly different.

For social awareness, the results are shown in Table 3. The maximum score here was 30.

TABLE 3
Significance of Difference between Means in Current Events Test for Large and Small Project Groups

Group	Large Mean	Large S.D.	Small Mean	Small S.D.	t-Ratio of Means	Significance 5%, t-table
Eco.	14.47	4.5	13.95	2.7	0.51	Not significant
Pol.	14.10	3.7	15.30	4.1	1.14	Not significant
Soc.	14.50	4.2	14.50	3.5	0.00	Not significant

Again there was no significant difference between the means of the respective large and small groups. In the standard deviations for Economics, a difference, significant at the 5% level, did appear.

For principled synthesis of social outlook (maximum score 100), the results are indicated in Table 4.

TABLE 4
Significance of Difference between Means in Test on Principled Synthesis of Social Outlook for Large and Small Project Groups

Group	Large Mean	Large S.D.	Small Mean	Small S.D.	t-Ratio of Means	Significance 5%, t-table
Eco.	76.23	12.3	75.18	16.6	0.61	Not significant
Pol.	71.15	12.1	70.50	11.1	0.56	Not significant
Soc.	51.90	14.7	55.25	13.3	2.34	Significant

The achievement of large and small groups in Economics and Politics showed no significant difference. Although the small group significantly surpassed the large in Sociology, an unusually high absenteeism makes any inference questionable; 12 students were absent from the large group and three from the small. Analysis of the standard deviations revealed no significant differences.

Summarily, statistical examination of the data derived from the experiment supports its basic hypothesis that a large class with good quality will equal the achievement of a small class with the same quality. This proved true with reference not only to the academic subject matter, but also to the "intangible" purposes of the basic social science courses as these purposes were viewed by the experimenters—social awareness and principled synthesis of social outlook. Of the 12 mean measures analyzed, only one (social outlook for Sociology) significantly favored the small group. In the other 11 cases, the small group surpassed its respective large group five times; the large surpassed the small five times; and the groups were identical once.

Near the end of the first semester, participating students were interviewed to ascertain their attitudes toward the large class size—especially with relation to vision, hearing, space, ventilation, opportunity for questions, discussion and faculty consultation, and use of library reserve shelves. Somewhat to the surprise of the experimenters, the large groups seemed as satisfied as the small with the opportunities provided for questions and discussion. The large groups did tend to complain of physical crowding—justifiably, since the experimental classrooms were not perfectly accommodated to 60 students.

Participating teachers also were asked to indicate their reaction to the larger class size. They were conscious of greater effort in establishing classroom informality with the large groups and found it harder to assure an appropriate distribution of discussion and to enlist the participation of the disinclined. Their principal criticism, however, touched equally their relationship with small and large classes: the employment of graduate assistants even in so small a role as attendance-taking diluted the intimacy of faculty-student contact; professors therefore experienced greater difficulty in uncovering students' individual academic difficulties and in stimulating the complacent members of their classes.

Professors logged the hours spent on the project, distinguishing time going into normal instructional work from time going into the experimental controls. The figure for instructional work was estimated as hours expended per student, scaled—where necessary—to a single class of 60. This figure was compared with the time

which *would have been spent,* in past practice, on two classes of 30. Thus calculated, the saving through the class of 60 came to about 25% principally in classtime and the grading of papers. This saving of time cannot, however, be directly translated into conservation of personnel or elevation of salaries; other administrative difficulties—such as the scheduling of different courses with divergent enrollments in rooms of varying sizes—stand in the way.

The Fordham project obviously does not demonstrate irrefutably that increased class size is the definitive solution for the "bulge." Besides its restriction to middle-range students, basic courses, social science curriculum, and dynamic teachers, the experiment suffers the inherent limitation of having been but a single trial run. The project does confirm the wisdom of systematically re-examining pedagogical assumptions. Further research for the social sciences, and similar experimentation for the humanities, could replace guesswork with knowledge in fixing optimum class size and could furnish surer orientation in meeting the new crisis of mass education.

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[1] The authors taught the classes in economics and sociology. We thank Prof. William R. Frasca who taught the political science classes in the study and Prof. Joseph C. McKenna who directed the research project for their guidance and co-operation in the preparation of this paper. In addition, Prof. William Partlan and Martin J. Meade are appreciatively acknowledged for their contribution in the statistical analysis of the data.

[2] Illustrative is the following question from the Politics test:

"In the American Constitutional System, the national government has exclusive power in conducting the foreign relations of the United States. In fact, in the entire field of foreign affairs, the national government has 'inherent' powers to carry on relations with other nations even if such powers had not been mentioned in the Federal Constitution."

1. Do you agree ..... or disagree ..... with the above?
2. This is so because:
   a) In international law, the United States is a sovereign state.
   b) The national government has only delegated powers in all fields.
   c) The American President has sole responsibility for making foreign policy.
   d) International agreements may affect the rights of states.

EVENTS

HOMEWORK FOR HUTCHINS

We Americans "do not take education seriously," says Robert M. Hutchins in an article in *Esquire.* He claims that "in every country of the world, except the United States, there is an incentive to serious learning." Statements, by such eminent scientists as Admiral H. G. Rickover and Dr. J. Robert Oppenheimer, which exalt Soviet education and virtually condemn the American school system, are applauded by him. Not one of these judgments is supported by any proof whatsoever.

As president and chancellor of the University of Chicago, Dr. Hutchins has had a large and patient audience willing to consider with seriousness his strictures on the American college. Many persons in the universities have pondered his proposals for reforming the higher learning in America. There were many friendly ears to listen to his not always friendly voice. If his auditors did not always agree with him, they at least showed signs of admiration for his courage in defending his faculty against legislative attacks. More remember Hutchins as the crusader for freedom than as the alleged violator of it.

Dr. Hutchins has won his niche in the history of American education. However, he has tended to rest on his laurels. During the past decade his contribution to educational thought has proved to be anemic, indeed.

No longer a "bad boy," there is no need for him to be cute or to shock us. We have a right to expect that he take his public statements seriously, as befits a mature educator. Alas, how the mighty has fallen, how the physician has failed to heal himself!

It is time for Dr. Hutchins to do some elaborate homework and find out some objective factual data about both American and Soviet education. As one of our foremost exponents of the aim of education "to develop intellectual power," it would be proper for him to subject himself to the intellectual discipline of scholarship—that is, to maintain an open mind, to collect full information, to analyze the data in historical and other contexts, to arrive at conclusions on the basis of verified fact, and to perform related intellectual tasks. These are time-consuming and painful procedures, since there is no administrative avenue to learning. To the extent that Dr. Hutchins reiterates unproved statements and employs catchphrases, he is promoting anti-intellectual, not "intellectual," power.

Education in the United States needs sound criticism from such persons as Robert Maynard Hutchins. By such sentiments as he expresses in the *Esquire* article, he performs a distinct disservice to the American public. An important person in the public eye, especially one with an academic history, must be more than careful in exercising his freedom of speech in a mass medium of expression. In this, as in other instances, freedom without responsibility leads to the corruption of the mind.

William W. Brickman

UNION COLLEGE PROGRAM FOR GIFTED FRESHMEN

SCHOOLS AND COLLEGES throughout the nation are continually searching for more effective ways to stimulate gifted students and to exploit their inherent abilities. Union College (Schenectady, N. Y.) has found at least one answer to the problem in a special-privilege program for a select freshman group, known collectively as the "Extendibles."

Initiated in the fall of 1957, the new program offers numerous advantages, including advanced standing and full credit toward graduation in such subjects as English, foreign languages, and mathematics, qualifying examinations for which are given during the first week of the school year. Other privileges extended to the participants are: permission to carry an extra course for credit without additional charge; freedom from the normal class attendance rule; special library privileges; the opportunity to carry on work in freshman English and other courses on an independent study and individual conference basis; and unlimited participation in student activities.

In addition to their regular academic work, the "Extendibles" meet periodically during the year with Pres. Carter Davidson and other faculty members to evaluate the program. Last year's group voted unanimously that the experience was ". . . a very valuable one" and recommended it strongly for the class entering in the fall of 1958.

NEW PLAN OF TEACHER PREPARATION

THE UNIVERSITY OF WISCONSIN School of Education has adopted a plan that may revolutionize requirements for teacher certification in the state. As an alternate to the present plan for certifying teachers, which requires specific courses in a more or less inflexible pattern, the student or teacher may choose to prove by examination that he has mastered the required material in three areas: liberal or general education, the subject field he plans to teach, and the learning process. On passing the tests, he becomes eligible to demonstrate his ability to teach.

According to Dean Lindley J. Stiles, "We plan to recommend students for teacher certification on the basis of what they know and can do—to measure their general knowledge and scholarship and their teaching ability—rather than to require specific information that may be contained in any particular course. With the blessing of the State Department of Public Instruction we are calling on other colleges in the state to help us develop this into a statewide system. Our object is to make certain, in these days of teacher shortage, that no competent teacher is denied a certificate for teaching."

The new plan would apply, in addition to students now preparing to teach, to those holders of the bachelor's degree who decide they want to teach and to teachers moving into Wisconsin from other areas who must be certified for Wisconsin teaching. The education faculty also has approved the "block" plan for student teaching in secondary education to give students more concentrated time in actual classroom experience.

EDUCATION DOUBLES EARNING POWER

AN ADULT MALE with four years of college will earn, on the average, more than twice as much in a year as a man with less than an elementary school education and $1,500 a year more than a high-school graduate, according to recent testimony before the House of Representatives Subcommittee on Education by Lyman V. Ginger, president, National Education Association.

Dr. Ginger cited Census Bureau statistics that showed the median income in 1956 of men 35 to 54 years who were year-round full-time workers was $3,025 for those with less than eight years of school; $4,182 for those who completed eight years; $4,700 for three years of high school; $5,179 for completion of high school; $5,763 for three years of college; and $6,625 for four or more years of college.

"For the individual, education represents earning power and a better material life," Dr. Ginger said. "Education is also economic power for his community and for his employer. Comparisons of income and education levels by states typically show a high correlation between the state's ranking in median school years completed and its ranking on per-capita personal income. This is particularly striking at the bottom of the scale: in 1950 the 10 lowest-ranking states on school years completed were also the 10 with the lowest per-capita personal incomes."

The estimated lifetime income for men with no formal education is $58,000; 1-4 years, $72,000; 5-7 years, $93,000; 8 years, $116,000; 1-3 years of high school, $135,000; four years of high school, $165,000; 1-3 years of college, $190,000; and four or more years of college, $268,000.

HIGHER EDUCATION OF WOMEN

THE EDUCATION COMMITTEE of the American Association of University Women, at its annual meeting last Feb., released the following statement because there is danger that the enrollment of women may be cut back under the increasing pressures of more qualified applicants than the colleges can accommodate:

> In the current search for qualified personnel in all fields, the loss of many of the ablest young women is causing real concern. Ever since 1869, when the U.S. Office of Education started compiling statistics, more girls than boys have graduated from high school. At the same time, except for the war years, fewer girls than boys have graduated from college. Furthermore, of the students in the top 10 per cent of the high school classes who do *not* go on to college, at least two-thirds are women.
>
> It is false economy for the wealthiest nation in the world to waste any of its human resources, manpower or womanpower. Certainly, for the forseeable future women will be called upon to play a multiple role in our society. They will be homemakers, bread-winners, community workers, and political participants.

If education is vital for a man in the complex situations which he must face, it is even more vital for a woman, who, during a single day, may be called upon to face issues which demand knowledge of economics, psychology and sociology; consumer problems, the fine arts, and human relations. Ignorance will defeat her!

Today more than ever some way must be found to motivate the abler half of our young people, both boys and girls, to continue their education beyond the high school. It would be dangerous as well as wasteful to close the doors of higher education to qualified young women. It is short-sighted and irresponsible of young women and their parents to ignore the value of completing a college education.

Even though a girl marries immediately upon graduation, her education has not been wasted. It will be useful to her and to society, both in the long range and in the immediate future. This country needs homes in which children are motivated to learn. It also needs highly trained professional workers in increasing number. An educated woman contributes to both.

Educational Ticker Tape . . .

(Continued from page 330)

derive all their information from newspaper articles and a few popular books." The new program includes basic courses concerning the language and culture of Russia . . . **New Schools:** The University of Chicago has established a Graduate School of Education to extend its contributions to the improvement of elementary and secondary education. Francis S. Chase, chairman, department of education, appointed dean. Brandeis University is embarking upon a pioneering academic venture, the opening of its first professional school. Its proposed Florence Heller Graduate School for Advanced Studies in Social Welfare will offer programs of study on the doctoral and postgraduate level, effective Sept., 1959. A School of Industrial Management has been established at Purdue University with E. T. Weiler as dean.

NEW POSTS . . .

George N. Shuster, president, Hunter College, nominated by the U. S. government to succeed Athelstan Spilhaus as the American member of the Executive Board, Unesco . . . **Russell M. Cooper and T. C. Clark** are the new president and associate executive secretary, respectively, Association for Higher Education, NEA . . . **Marvin G. Osborn, Jr.,** director of information and public relations adviser, Washington University (St. Louis, Mo.), named president-elect, American College Public Relations Association . . . **William T. Alexander,** dean of engineering, Northeastern University (Boston), elected president, American Society for Engineering Education . . . **Lewis W. Jones** will resign as president, Rutgers University, to assume duties as president, National Conference of Christians and Jews, succeeding Everett R. Clinchy.

RECENT *Publications*

The following are 1958 editions, except where indicated otherwise

BOUWSMA, WILLIAM J., *Concordia Mundi: The Career and Thought of Guillaume Postel (1510-1581),* pp. 328, 1957, $6.50; CROSS, ROBERT D., *The Emergence of Liberal Catholicism in America,* pp. 328, $5.50; KUHN, THOMAS S., *The Copernican Revolution: Planetary Astronomy in the Development of Western Thought,* pp. 297, 1957, $5.50; ROBINSON, G. CANBY, *Adventures in Medical Education: A Personal Narrative of the Great Advance of American Medicine,* pp. 338, 1957, $5.00; SURTZ, EDWARD, *The Praise of Pleasure: Philosophy, Education, and Communism in More's Utopia,* pp. 246, 1957, $4.75. Harvard University Press, Cambridge 38, Mass.

BRÉE, GERMAINE, and ANNE P. JONES (editors), *Hier et Aujourd'hui: Premières Lectures Litteraires,* pp. 168, $2.75; SARGENT, S. STANSFELD, and ROBERT C. WILLIAMSON, *Social Psychology: An Introduction to the Study of Social Relations,* pp. 649, $6.00; WAHLQUIST, JOHN T., and PATRICK J. RYAN, *An Introduction to American Education,* second edition, pp. 477, $5.00. Ronald Press, New York 10.

BRICKMAN, WILLIAM W. (editor). *Comparative Education and Foreign Educational Service: Proceedings of the Fourth Annual Conference on Comparative Education.* Pp. 56. 1957. School of Education, New York University, New York 3.

BURR, JAMES B., *et al., Student Teaching in the Elementary School,* second edition, pp. 459, $5.75; LEE, J. MURRAY, and DORRIS MAY LEE, *The Child and His Development,* pp. 624, $6.00; MILLER, ISABEL, *et al., Guidebook for Elementary School Teachers,* pp. 183, $2.25 (paper). PHELPS, HAROLD A., and WALLACE A. RUSSELL, *Introduction to Human Aspects,* pp. 512, $6.00; TINKER, MILES A., and WALLACE A. RUSSELL, *Introduction to Methods in Experimental Psychology,* third edition, pp. 282, $4.50 (paper); YATES, GERARD F., *Papal Thought on the State,* pp. 139, 45 cents (paper). Appleton-Century-Crofts, New York 1.

CALLAHAN, PARNELL. *Legal Status of Young Adults.* Pp. 96, $2.00. Oceana Publications, New York 3.

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WILLIAM T. GRUHN, *University of Connecticut*

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